

CLAIMS

1. A method of applying and evenly distributing a quantity of particulate material such as ground or dried coffee within a shallow tray, comprising:

- providing said quantity,
- 5 – delivering said quantity within said tray, said tray having a plurality of pins to be positioned within said particulate material while vibrating said tray,
- vibrating said tray horizontally at a low vibrational frequency and for a specific period of time for causing said particulate material to be evenly distributed within said tray, and
- 10 – transferring said quantity from said tray to a further processing station such as a freezing station or a drying station.

2. The method according to claim 1, said quantity being provided from an overhead distributor such as an overhead openable hopper.

3. The method according to any of the claims 1 or 2, said tray having a bottom surface constituted by a flexible and foldable foil or web or a shuttle conveyer belt.

15 4. The method according to any of the claims 1-3, said plurality of pins constituting movable pins extending into said tray from a stationary frame in which said tray is suspended for allowing said horizontal vibration.

5. The method according to any of the claims 1-3, said plurality of pins being constituted by 20 stationary pins fixated to said tray and movable with said tray.

6. The method according to any of the claims 1-5, said vibrational tray being vibrated horizontally at a frequency of 0.5-25 Hz such as 1-20 Hz, e.g. 2-15 Hz such as 3-10 Hz, preferably approximately 5-6 Hz, such as 0.5-2 Hz, 2-4 Hz, 4-6 Hz, 6-8 Hz, 8-10 Hz, 10-12 Hz, 12-14 Hz, 14-16 Hz, 16-18 Hz, 18-20 Hz, 20-22 Hz, 22-25 Hz.

25 7. The method according to any of the claims 1-6, said vibrational tray being vibrated for a period of time of less than 15 sec. or 15 sec.-2 min. such as 1-3 sec., 3-5 sec., 5-7 sec., 7-9 sec., 9-11 sec., 11-13 sec., 13-15 sec., preferably approximately 9 Hz or 15-30 sec. 30-60 sec., 60-120 sec.

8. An apparatus for applying and evenly distributing a quantity of particulate material such as ground or dried coffee within a shallow tray, comprising:

- a delivery means for delivering said quantity,
- said shallow tray constituted by a vibrational tray for vibrating at a low frequency and being positioned below said delivery means for receiving said quantity from said delivery means and having a plurality of pins to be positioned within said quantity while vibrating said tray.
- a vibrational generating means connected to said tray for vibrating said vibrational tray for causing said quantity received within said tray to be evenly distributed within said tray,
- a timer for actuating said vibrational generating means for a specific period of time for causing said vibrational tray to be vibrated for a specific period of time set by said timer, and
- a transfer means for transferring a quantity from said tray to a further processing station such as a freezing station or a drying station.

9. The apparatus according to claim 8, said delivery means being constituted by an overhead distributor, preferably an overhead openable hopper positioned above said tray.

10. The apparatus according to any of the claims 8 or 9, said tray having a bottom surface constituted by a flexible and foldable foil or web constituted by a shuttle conveyer belt.

20 11. The apparatus according to any of the claims 8-10, said plurality of pins constituting movable pins extending into said tray from a stationary frame in which said tray is suspended for allowing said horizontal vibration.

12. The apparatus according to any of the claims 8-10, said plurality of pins being constituted by stationary pins fixated to said tray and movable with said tray.

25 13. The apparatus according to any of the claims 8-12, such vibrational tray being vibrated horizontally at a frequency of 0,5-25 Hz, such as 1-20 Hz, e.g. 2-15 Hz, such as 3-10 Hz, preferably approximately 5-6 Hz.